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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,774	03/01/2002	Rudiger Huhn	DT-6115	8959

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DAVID TOREN, ESQ.  
SIDLEY, AUSTIN, BROWN & WOOD, LLP  
787 SEVENTH AVENUE  
NEW YORK, NY 10019-6018

EXAMINER

LAIR, DONALD M

ART UNIT PAPER NUMBER

2858

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/086,774	HUHN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Donald M. Lair	2858	

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 – 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Spence et al. (US-6,540,895).

4. In regards to Claim 1, Spence et al. disclose a system for detecting fluids in a microfluidic component comprising at least one microchannel including a limitation wall which has two surfaces which, facing the microchannel in a transparent area, are inclined towards each other at an acute angle (Fig. 14B), a photo transmitter and a photo receiver which are disposed outside the component are directed to the inclined surfaces in the transparent area of the limitation wall in such a way that if a gas is waiting in the microchannel on the two surfaces a light ray emitted by the photo transmitter impinges on the photo receiver following a total

reflection on the two surfaces and, if a liquid is waiting in the microchannel, enters the microchannel on at least on of the two surfaces and the incidence of light into the photo receiver is reduced or prohibited (Column 13, line 33 – Column 14, line 42).

5. In regards to Claim 2, Spence et al. disclose a system comprising the elements described above, wherein the microchannel is of a substantially constant cross-section at least in the area of the inclined surfaces and in the area adjoining them (Fig. 14B).

6. In regards to Claim 3, Spence et al. disclose a system comprising the elements described above, wherein the limitation wall disposed opposite the limitation wall having the inclined surfaces has substantially parallel upper and lower limitation walls at least in the areas opposite the inclined surfaces and in the areas adjoining them (Fig. 14B).

7. In regards to Claim 4, Spence et al. disclose a system comprising the elements described above, wherein it is clear that the limitation wall disposed opposite the limitation wall having the inclined surfaces must absorb light at least in the areas disposed opposite the inclined surfaces (Fig. 14B; Column 13, line 33 – Column 14, line 42).

8. In regards to Claim 5, Spence et al. disclose a system comprising the elements described above, where the angle between the two surfaces is about 90 degrees (Fig. 14B).

9. In regards to Claim 6, Spence et al. disclose a system comprising the elements described above, wherein the component has a plurality of superposed walls (Fig. 14B).

10. In regards to Claim 7, Spence et al. disclose a system comprising the elements described above, wherein the photo transmitter and the photo receiver are designed in a single component (Column 13, line 33 – Column 14, line 42).

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11. In regards to Claim 8, Spence et al. disclose a system comprising the elements described above, wherein the photo transmitter and the photo receiver are separated from the microfluidic component (Column 13, line 33 – Column 14, line 42).

12. In regards to Claim 9, Spence et al. disclose a system comprising the elements described above, wherein it is inherent that the photo transmitter and the photo receiver are capable of operating in the infrared range in order to be able to fully detect all of the fluorescent reporters (Column 1, lines 19 – 23; Column 13, line 33 – Column 14, line 42).

13. In regards to Claims 10 and 11, Spence et al. disclose a system comprising the elements described above, which is integrated in an apparatus to which the microfluidic component is detachably connected and is disposable (Column 1, lines 34 – 43).

14. In regards to Claims 12 and 16, Spence et al. disclose a system comprising the elements described above, wherein the microfluidic component is inserted in a receptacle of the apparatus, such as ink-jet writers (Column 1, line 63 – Column 2, line 18).

15. In regards to Claim 13, Spence et al. disclose a system comprising the elements described above, wherein it is inherent that ink jet printer cartridges, which contain the microfluidic component, are detachably locked to the printer when connected (Column 1, line 63 – Column 2, line 18).

16. In regards to Claim 14, Spence et al. disclose a system comprising the elements described above, wherein the apparatus, on the side of the microfluidic component, which is disposed opposite the side including the photo transmitter and the photo receiver, has a wall with specific reflection characteristics which, if no microfluidic component exists, results in a specific light incidence of the light originating from the photo transmitter into the photo receiver, which differs

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from the light incidence which occurs if a microfluidic component exists (Fig. 14B; Column 13, line 33 – Column 14, line 42).

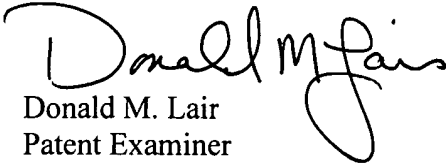
17. In regards to Claim 15, Spence et al. disclose a system comprising the elements described above, wherein it is clear that any apparatus, regardless of the size, is capable of being held by hands.


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald M. Lair whose telephone number is (703) 305-4450. The examiner can normally be reached on Monday - Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on (703) 308-0750. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1436.

  
Donald M. Lair  
Patent Examiner  
Art Unit 2858  
June 9, 2003

  
JAY PATIDAR  
PRIMARY EXAMINER